

Cofilin-Actin Interactions

J-Q. Guan, M. Chance, S. Goldsmith and S. Almo (Albert Einstein College of Medicine)

Abstract No. guan0307

Beamline(s): **X28C**

The actin cytoskeleton mediates a variety of biological processes which are directed by the assembly of macromolecular complexes between actin and actin-regulatory proteins. Cofilin binds actin monomers and filaments and has a pH dependent actin severing ability. We prepared and purified actin from rabbit skeleton muscle and cofilin by overexpression, respectively. The accessible surface areas of actin and cofilin molecules by solvent were calculated. We applied synchrotron footprinting technique to provide detailed binding information. The preliminary results provide a potential explanation for the interaction between actin and cofilin. Further verification of the extent and the exact binding sites is underway.